

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331596-927

Luminaire Tested: **S122DIW-S1005D710U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331596-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D710U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5162.8 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

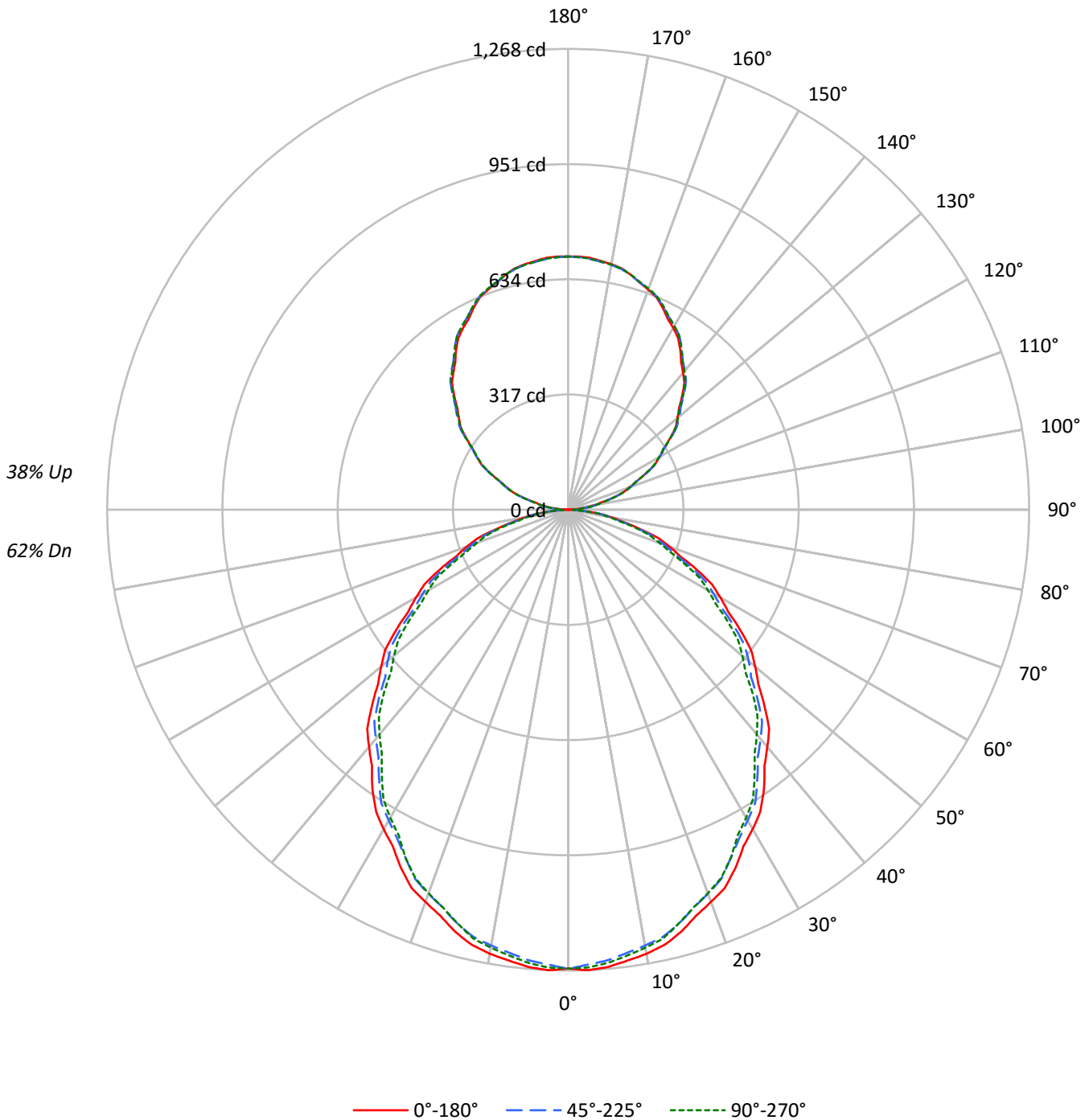
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	110	110	110	110	103	103	103	103	90	90	90		78	78	78		67	67	67	62
1	101	96	92	89	94	90	87	84	79	77	74		69	67	65		60	58	57	52
2	92	84	78	72	86	79	73	69	69	65	61		61	57	55		52	50	48	44
3	84	74	66	60	78	69	63	57	61	56	52		54	50	46		46	43	41	37
4	76	65	57	51	71	62	54	49	54	49	44		48	43	40		42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38		43	38	34		37	34	31	28
6	65	52	44	38	61	50	42	37	44	38	33		39	34	30		34	30	27	24
7	60	47	39	34	56	45	37	32	40	34	29		35	30	27		31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26		32	28	24		29	25	22	19
9	52	39	32	27	49	37	30	26	34	28	24		30	25	22		26	22	20	17
10	49	36	29	24	46	34	28	23	31	25	21		28	23	20		25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20386	20386	20386
5°	20464	20169	20285
10°	20341	19964	20064
15°	20090	19704	19686
20°	19734	19316	19295
25°	19379	18838	18838
30°	18921	18401	18243
35°	18496	17875	17611
40°	17962	17351	17015
45°	17438	16826	16411
50°	16865	16284	15707
55°	16268	15651	15071
60°	15603	14899	14347
65°	14888	14147	13498
70°	13983	13237	12609
75°	12726	12190	11890
80°	11288	10953	10386
85°	9207	8781	7873



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	2.3
10°-20°	334.1	6.5
20°-30°	491.0	9.5
30°-40°	570.4	11.0
40°-50°	569.8	11.0
50°-60°	496.9	9.6
60°-70°	367.4	7.1
70°-80°	208.1	4.0
80°-90°	58.7	1.1
90°-100°	44.1	0.9
100°-110°	137.1	2.7
110°-120°	234.3	4.5
120°-130°	308.1	6.0
130°-140°	345.9	6.7
140°-150°	339.1	6.6
150°-160°	284.5	5.5
160°-170°	188.7	3.7
170°-180°	65.9	1.3
0°-30°	943.8	18.3
0°-40°	1514.2	29.3
0°-60°	2580.8	50.0
0°-90°	3215.0	62.3
90°-120°	415.5	8.0
90°-150°	1408.7	27.3
90°-180°	1948.0	37.7
0°-180°	5162.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1263	1263	1263	1263	1263	
5°	1263	1257	1244	1253	1252	120
15°	1202	1194	1179	1183	1178	338
25°	1088	1078	1057	1060	1057	500
35°	938	926	907	900	894	586
45°	764	755	737	724	719	589
55°	578	570	556	542	535	517
65°	390	382	370	360	353	385
75°	204	201	195	189	191	218
85°	50	49	47	44	42	57
90°	1	8	21	20	20	4
95°	31	36	38	38	36	35
105°	126	128	129	130	130	133
115°	235	238	238	237	235	233
125°	342	347	346	344	343	306
135°	443	449	450	450	448	342
145°	537	541	545	545	543	336
155°	614	616	618	620	619	283
165°	668	668	668	672	669	188
175°	695	694	692	696	693	66
180°	697	697	697	697	697	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1268.4	1267.3	1266.3	1265.2	1264.1	1262.4	1260.0	1257.7	1255.3	1252.9	1255.1
5°	1262.6	1261.6	1260.4	1259.3	1258.3	1256.2	1253.3	1250.3	1247.4	1244.4	1246.6
7.5°	1251.4	1249.7	1248.1	1246.4	1244.8	1242.4	1239.4	1236.4	1233.3	1230.3	1232.5
10°	1240.7	1238.9	1237.0	1235.1	1233.2	1230.7	1227.4	1224.2	1220.9	1217.7	1219.9
12.5°	1226.2	1224.5	1222.8	1221.1	1219.5	1217.0	1213.8	1210.5	1207.4	1204.1	1205.6
15°	1201.9	1200.3	1198.7	1197.1	1195.4	1192.9	1189.4	1185.8	1182.3	1178.8	1180.0
17.5°	1170.8	1169.2	1167.6	1165.9	1164.3	1161.7	1158.2	1154.6	1151.0	1147.6	1148.7
20°	1148.5	1146.8	1145.3	1143.6	1142.0	1139.3	1135.5	1131.8	1128.0	1124.2	1125.0
22.5°	1126.2	1123.9	1121.7	1119.4	1117.1	1114.2	1110.6	1107.1	1103.5	1099.9	1100.1
25°	1087.8	1085.6	1083.5	1081.3	1079.2	1075.8	1071.2	1066.6	1062.0	1057.4	1058.0
27.5°	1044.1	1042.1	1040.2	1038.2	1036.3	1033.6	1029.9	1026.3	1022.7	1019.1	1018.3
30°	1014.9	1012.8	1010.6	1008.4	1006.3	1003.2	999.2	995.1	991.1	987.0	986.2
32.5°	983.9	982.1	980.4	978.7	976.9	974.0	969.7	965.4	961.2	956.9	955.5
35°	938.4	935.7	933.0	930.3	927.6	924.2	919.8	915.5	911.2	906.9	905.3
37.5°	887.2	884.9	882.5	880.1	877.7	874.4	870.1	865.8	861.4	857.1	855.1
40°	852.2	850.1	848.0	845.8	843.6	840.4	836.1	831.8	827.4	823.2	820.7
42.5°	818.2	816.1	814.0	811.8	809.6	806.4	802.1	797.7	793.4	789.1	786.5
45°	763.7	761.8	759.9	758.0	756.1	753.1	749.1	745.0	741.0	736.9	734.0
47.5°	709.2	707.5	705.7	703.9	702.1	699.1	694.9	690.7	686.5	682.3	679.1
50°	671.4	670.0	668.7	667.3	666.0	663.4	659.7	655.8	652.0	648.3	644.5
52.5°	634.5	632.7	630.9	629.2	627.3	624.6	621.1	617.5	614.0	610.5	607.3
55°	577.9	576.2	574.6	573.1	571.4	568.9	565.8	562.5	559.3	556.0	552.8
57.5°	521.1	519.8	518.5	517.2	515.9	513.5	509.9	506.4	502.8	499.2	496.1
60°	483.2	482.1	481.0	480.0	478.9	476.4	472.7	468.9	465.1	461.4	458.4
62.5°	446.3	444.6	442.8	441.1	439.3	437.0	434.1	431.3	428.3	425.4	422.6
65°	389.7	388.1	386.5	384.8	383.3	381.0	378.3	375.7	373.0	370.3	367.9
67.5°	332.2	330.9	329.5	328.3	327.0	325.1	322.7	320.3	317.8	315.4	313.5
70°	296.2	295.2	294.1	293.0	291.9	290.2	287.7	285.3	282.9	280.4	278.5
72.5°	259.3	258.3	257.1	256.1	255.0	253.7	252.2	250.6	249.0	247.4	245.5
75°	204.0	203.4	202.9	202.3	201.8	200.8	199.5	198.1	196.8	195.4	193.8
77.5°	154.4	153.5	152.6	151.7	150.8	150.0	149.5	148.9	148.4	147.9	147.0
80°	121.4	121.1	120.9	120.6	120.3	119.9	119.4	118.8	118.3	117.8	116.9
82.5°	90.3	90.3	90.2	90.2	90.1	89.9	89.6	89.3	89.0	88.6	87.6
85°	49.7	49.5	49.3	49.0	48.7	48.4	48.2	47.8	47.6	47.4	46.5
87.5°	17.6	17.5	17.3	17.3	17.1	17.1	17.3	17.4	17.6	17.7	17.0
90°	0.6	2.1	3.7	5.3	6.9	9.1	12.0	14.8	17.7	20.6	20.3
92.5°	10.5	11.6	12.8	13.9	15.1	16.0	16.6	17.3	18.0	18.7	18.8
95°	30.6	31.8	33.2	34.5	35.8	36.6	36.8	37.1	37.4	37.6	37.6
97.5°	55.8	57.0	58.1	59.3	60.4	61.2	61.8	62.3	62.7	63.2	63.2
100°	74.6	75.7	76.8	77.8	78.8	79.5	79.9	80.3	80.7	81.1	81.1
102.5°	94.4	95.2	96.1	96.9	97.8	98.4	98.9	99.4	99.9	100.4	100.5
105°	126.4	126.7	127.1	127.5	127.9	128.3	128.6	128.8	129.0	129.4	129.6
107.5°	158.6	159.1	159.8	160.3	160.9	161.2	161.2	161.2	161.2	161.2	161.3
110°	179.3	180.1	180.9	181.6	182.4	182.8	182.8	182.8	182.8	182.8	182.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	201.8	202.6	203.4	204.2	205.0	205.3	205.3	205.1	205.0	204.9	204.6
115°	235.1	235.9	236.7	237.5	238.3	238.5	238.3	238.0	237.7	237.5	237.3
117.5°	268.3	269.3	270.4	271.4	272.4	272.6	271.9	271.2	270.5	269.7	269.4
120°	290.4	291.4	292.5	293.5	294.5	294.5	293.5	292.5	291.4	290.4	290.4
122.5°	310.6	311.9	313.1	314.3	315.6	315.9	315.1	314.4	313.7	313.0	312.7
125°	342.1	343.3	344.4	345.6	346.8	347.2	346.8	346.4	346.0	345.6	345.2
127.5°	372.8	374.3	375.8	377.2	378.7	379.3	378.8	378.3	377.9	377.4	376.9
130°	392.1	393.8	395.5	397.2	398.9	399.6	399.3	399.1	398.8	398.5	398.3
132.5°	413.8	415.1	416.5	417.9	419.2	420.0	420.0	420.1	420.2	420.2	419.6
135°	442.7	444.1	445.5	446.9	448.4	449.2	449.5	449.8	450.0	450.3	450.1
137.5°	473.1	474.3	475.5	476.7	477.8	478.6	478.9	479.3	479.6	479.9	479.8
140°	491.5	492.6	493.8	495.0	496.1	497.0	497.7	498.4	499.0	499.6	499.6
142.5°	510.2	511.4	512.6	513.8	514.9	515.8	516.2	516.7	517.1	517.5	517.6
145°	537.3	538.2	539.1	540.0	541.0	541.8	542.6	543.4	544.2	544.9	545.0
147.5°	561.4	562.4	563.6	564.7	565.8	566.6	567.1	567.6	568.2	568.7	568.9
150°	577.8	578.6	579.4	580.2	581.0	581.6	582.2	582.7	583.2	583.8	584.2
152.5°	592.4	593.2	594.0	594.8	595.6	596.3	596.9	597.5	598.2	598.8	599.3
155°	614.3	614.7	615.1	615.4	615.8	616.2	616.6	617.0	617.4	617.8	618.5
157.5°	633.0	633.3	633.5	633.7	634.1	634.3	634.5	634.8	635.0	635.3	636.1
160°	644.3	644.5	644.8	645.1	645.3	645.5	645.6	645.8	645.9	646.0	646.8
162.5°	654.6	654.7	654.7	654.7	654.8	654.9	655.1	655.2	655.3	655.5	656.3
165°	668.4	668.2	668.1	668.0	667.9	667.8	667.8	667.8	667.8	667.8	668.7
167.5°	679.9	679.5	679.1	678.7	678.3	678.1	678.1	678.0	678.0	678.0	678.9
170°	686.0	685.6	685.2	684.8	684.4	684.2	684.0	683.9	683.8	683.7	684.6
172.5°	690.2	689.8	689.4	689.0	688.6	688.4	688.2	688.2	688.0	687.9	688.8
175°	695.4	695.1	694.7	694.3	693.9	693.6	693.2	693.0	692.8	692.4	693.4
177.5°	697.5	697.2	696.9	696.6	696.2	696.0	695.8	695.6	695.4	695.1	695.8
180°	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1257.2	1259.3	1261.6	1262.4	1261.9	1261.6	1261.1	1260.7
5°	1248.7	1250.9	1253.0	1253.9	1253.3	1252.8	1252.2	1251.6
7.5°	1234.6	1236.8	1239.0	1239.8	1239.1	1238.6	1237.9	1237.4
10°	1222.0	1224.2	1226.3	1227.0	1226.2	1225.3	1224.6	1223.8
12.5°	1207.1	1208.6	1210.1	1210.6	1210.0	1209.4	1208.8	1208.2
15°	1181.0	1182.1	1183.1	1183.0	1181.7	1180.4	1179.0	1177.7
17.5°	1150.0	1151.3	1152.5	1152.5	1151.1	1149.9	1148.6	1147.2
20°	1125.8	1126.6	1127.4	1127.3	1126.2	1125.1	1124.1	1123.0
22.5°	1100.3	1100.4	1100.6	1100.3	1099.7	1099.1	1098.4	1097.7
25°	1058.5	1059.1	1059.6	1059.6	1059.1	1058.5	1058.0	1057.4
27.5°	1017.5	1016.6	1015.8	1014.8	1013.5	1012.2	1010.9	1009.6
30°	985.4	984.6	983.8	982.9	981.8	980.6	979.6	978.5
32.5°	954.0	952.5	951.1	949.8	948.7	947.7	946.6	945.5
35°	903.6	902.1	900.4	899.0	897.6	896.3	894.8	893.5
37.5°	853.1	851.1	849.1	847.5	846.2	844.9	843.6	842.3
40°	818.2	815.9	813.4	811.7	810.6	809.5	808.4	807.3
42.5°	783.9	781.2	778.6	776.5	775.0	773.5	772.0	770.4
45°	731.0	728.0	725.1	723.0	721.9	720.9	719.8	718.7
47.5°	676.0	672.9	669.8	667.4	665.8	664.3	662.7	661.2
50°	640.7	637.0	633.2	630.7	629.3	628.0	626.6	625.3
52.5°	604.2	601.0	597.9	595.5	593.7	591.9	590.1	588.4
55°	549.5	546.3	543.1	540.8	539.5	538.1	536.8	535.4
57.5°	492.8	489.6	486.5	484.3	483.4	482.4	481.3	480.3
60°	455.4	452.4	449.5	447.6	446.8	446.0	445.1	444.3
62.5°	419.9	417.2	414.4	412.5	411.5	410.4	409.4	408.4
65°	365.4	363.0	360.6	358.7	357.4	356.0	354.7	353.3
67.5°	311.6	309.7	307.8	306.3	305.3	304.2	303.2	302.1
70°	276.6	274.8	272.9	271.4	270.3	269.3	268.2	267.1
72.5°	243.7	241.8	239.9	238.5	237.7	236.8	235.9	235.0
75°	192.3	190.6	189.0	188.5	189.0	189.5	190.0	190.6
77.5°	146.2	145.4	144.7	143.9	143.1	142.4	141.6	140.9
80°	116.1	115.3	114.5	113.8	113.3	112.8	112.3	111.7
82.5°	86.6	85.6	84.5	84.0	83.8	83.7	83.7	83.5
85°	45.7	44.9	44.1	43.6	43.3	43.0	42.8	42.5
87.5°	16.3	15.6	14.9	14.5	14.3	14.1	13.9	13.7
90°	20.0	19.8	19.6	19.5	19.6	19.7	19.9	20.0
92.5°	18.8	18.9	18.9	18.9	18.9	19.0	19.0	19.0
95°	37.6	37.6	37.6	37.5	37.2	37.0	36.7	36.4
97.5°	63.2	63.2	63.2	63.2	63.2	63.2	63.1	63.1
100°	81.1	81.1	81.1	81.0	81.0	80.8	80.6	80.6
102.5°	100.6	100.7	100.8	100.8	100.7	100.5	100.4	100.3
105°	129.8	130.1	130.4	130.5	130.5	130.5	130.5	130.5
107.5°	161.4	161.5	161.6	161.4	160.7	160.2	159.5	159.0
110°	182.8	182.8	182.8	182.6	182.2	181.8	181.4	181.1



TEST NUMBER: P331596-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	204.3	204.0	203.7	203.4	203.1	202.8	202.5	202.2
115°	237.3	237.1	236.9	236.7	236.3	235.9	235.5	235.1
117.5°	269.1	268.8	268.5	268.1	267.7	267.3	266.9	266.5
120°	290.4	290.4	290.4	290.2	289.8	289.4	289.0	288.6
122.5°	312.4	312.0	311.7	311.4	311.1	310.9	310.5	310.3
125°	344.8	344.4	344.0	343.8	343.7	343.6	343.4	343.3
127.5°	376.4	376.0	375.5	375.1	374.6	374.2	373.8	373.4
130°	398.1	397.8	397.5	397.1	396.6	396.1	395.5	395.1
132.5°	419.1	418.4	417.9	417.4	417.0	416.5	416.1	415.7
135°	450.0	449.9	449.8	449.5	449.1	448.7	448.3	447.9
137.5°	479.7	479.6	479.5	479.2	478.6	478.2	477.6	477.1
140°	499.6	499.6	499.6	499.4	498.9	498.4	497.8	497.3
142.5°	517.8	517.8	517.9	517.8	517.2	516.7	516.2	515.6
145°	545.2	545.3	545.4	545.3	544.7	544.2	543.7	543.2
147.5°	569.3	569.5	569.8	569.7	569.3	568.7	568.2	567.8
150°	584.5	584.9	585.3	585.3	584.9	584.5	584.2	583.8
152.5°	599.8	600.2	600.8	600.8	600.2	599.8	599.3	598.8
155°	619.1	619.8	620.4	620.6	620.2	619.8	619.4	619.0
157.5°	637.0	637.9	638.7	638.9	638.3	637.6	637.0	636.4
160°	647.6	648.4	649.2	649.3	648.8	648.2	647.8	647.2
162.5°	657.2	658.1	659.0	659.1	658.5	657.9	657.3	656.6
165°	669.6	670.5	671.5	671.6	670.9	670.3	669.6	669.0
167.5°	679.9	680.7	681.7	681.8	681.1	680.4	679.8	679.1
170°	685.5	686.4	687.3	687.4	686.6	685.8	685.0	684.2
172.5°	689.8	690.6	691.6	691.6	690.9	690.1	689.3	688.5
175°	694.3	695.2	696.2	696.2	695.4	694.7	693.9	693.1
177.5°	696.4	697.0	697.7	697.7	697.0	696.4	695.8	695.1
180°	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6

(END OF REPORT)